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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/676,384

09/30/2003

Li-Jau Yang

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EXAMINER

PALIWAL, YOGESH

ART UNIT

PAPER NUMBER

2135

MAIL DATE

DELIVERY MODE

07/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/676,384	Applicant(s) YANG ET AL.	
	Examiner YOGESH PALIWAL	Art Unit 2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-12, and 14-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Applicant's amendment filed on March 11, 2008 has been entered. Applicant has amended claims 1 and 11. Currently claims 1-20 are pending in this application of which claims 3 and 13 are withdrawn from consideration. Any well known art statements made in the prior office action not argued by applicant is taken as admittance of prior art as per MPEP 2144.03.

Response to Arguments

1. Applicant's arguments with respect to claims 1-2, 4-12, 14-20 have been considered but are moot in view of the new ground(s) of rejection and also in view of different interpretation of Dhir reference.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-12, and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art, hereinafter AAPA in view of Dhir et al. (US 2005/0084076 A1), hereinafter "Dhir".

Regarding **Claims 1 and 11**, AAPA discloses an apparatus comprising:

analog circuitry (see, Fig. 1, Numeral 130) configured to transmit to, and receive data from, a data transmission medium (see, Fig. 1, Numeral 120);

digital circuitry (see, Fig. 1, Numeral 140) directly coupled to said analog circuitry, said digital circuitry configured to transmit data/control signals to, and receive data/control signals from, a Media Access Controller (MAC) (see, Fig. 1, Numerals 140, 160 and 110);

a PHY communications module coupled to said analog and digital circuitry (see, Fig. 1, Numeral 150);

AAPA does not disclose a crypto engine coupled to a digital circuitry; a crypto communication module directly coupled to said crypto engine and an interface link operatively coupling a PHY communication module to a crypto communications module.

Dhir discloses a crypto engine coupled to a digital circuitry (see, Fig. 8, Numeral 321); a crypto communication module directly coupled to said crypto engine (see, Fig. 8, Numeral 321 and 312, and also see, Paragraph 0051, "Accordingly, program memory 312 comprises programming instructions 398 for FPGA 300 to configure encryption engine 321 for either of at least these two types of encryptions being employed, namely, RC4 and DES or triple DES with respect to HiperLAN2.", and also refer to Paragraph 0050, "Memory controller 314 may be programmed using a portion of program instruction 398 for programming programmable gates of FPGA 300 or may be hardwired or embedded with FPGA 300") and an interface link (See Fig. 8, Numeral

320) operatively coupling a PHY communication module (Fig. 8, Numeral 315) to a crypto communications module (Fig. 8, Numeral 312).

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to include in the circuitry of AAPA, encryption engine and encryption communication module as taught by Dhir to provide built in security for data passing through the MAC.

Regarding **Claims 2 and 12**, the rejection of claims 1 and 11 is incorporated and the combination of AAPA and Dhir further discloses wherein said PHY communication module is configured to provide connectivity through a MDIO/MDC interface (see AAPA, Fig. 1, Numeral 150 and MDIO interface connecting MAC and PHY communication module), and said PHY controls the operation of said crypto device (see Dhir, Fig. 8, Numerals 301 and 312 also paragraphs 0046, 0049).

Regarding **Claims 4 and 14**, the rejection of claims 1 and 11 is incorporated and the combination of AAPA and Dhir further discloses PHY communication module is configured to provide connectivity through a MDIO/MDC interface (see AAPA, Fig. 1, Numeral 150 and MDIO interface connecting MAC and PHY communication module); and Dhir discloses crypto communication module (Dhir, Fig. 8, Numeral 312), directly coupled to MAC (see, Fig. 8, Numeral 320). Dhir's crypto communication module is not connected using a MDIO/MDC interface. However it can be seen that when Dhir's crypto engine and crypto communication are combined into AAPA design it would utilize the existing interface (MDIO/MDC) to receive and send control/data signal to and from MAC to do encryption or decryption of the data.

Regarding **Claims 5 and 15**, the rejection of claims 1 and 11 is incorporated and the combination of AAPA and Dhir further discloses a master communications module directly coupled between said PHY communications module and said crypto communications module (see, Fig. 8, numeral 320 coupled between 315 and 312).

Regarding **Claims 6 and 16**, the rejection of claims 1 and 11 is incorporated and the combination of AAPA and Dhir further discloses said crypto device controls the operation of said PHY (See Fig. 1, data has to go through numeral 112 (processing) where it is encrypted and then passed onto either PHY-1 or PHY-2 for transmitting it to the external source through signal line 106. Since data has to be processed by encryption engine before it gets to either PHY-1 or PHY-2, this can be seen as encryption engine controlling the operation of PHY, by processing the data before it gets to the PHY). Dhir's crypto communication module is not connected using a MDIO/MDC interface. However it can be seen that when Dhir's crypto engine and crypto communication are combined into AAPA design it would utilize the existing interface (MDIO/MDC) to receive and send control/data signal to and from MAC to do encryption or decryption of the data.

Regarding **Claims 7 and 17**, the rejection of claims 1 and 11 is incorporated and the combination of AAPA and Dhir further discloses that PHY communications module is configured to provide connectivity through a communication medium (see AAPA, Fig. 1, Numeral 120 and see Dhir Fig. 8, Numerals 301 and 312, WLAN transceiver is connected to program memory 312)

Regarding **Claims 8 and 18**, the rejection of claims 7 and 17 is incorporated and the combination of AAPA and Dhir further discloses that said communication medium is configured to communicate with a plurality of devices (See Dhir, Paragraphs 0044 and 45)

Regarding **Claims 9 and 19**, the rejection of claims 8 and 18 is incorporated and the combination of AAPA and Dhir further discloses that plurality of devices include at least one device that communicates at the PHY level (see Dhir, Paragraph 0045, "baseband processor 324"), and at least one device that performs both PHY and security functions (Dhir, Paragraph 0045, "encryption engine").

Regarding **Claims 10 and 20**, the rejection of claims 7 and 17 is incorporated and the combination of AAPA and Dhir further discloses that said communication medium communicates with at least one device that performs both PHY and Security functions (see Dhir, Paragraph 0045, "encryption engine 321").

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOGESH PALIWAL whose telephone number is (571)270-1807. The examiner can normally be reached on M-F: 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. P./
Examiner, Art Unit 2135

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/H. S./
Primary Examiner, Art Unit 2135